Taking the Jar Out of the Motor Car's Existence

Tires Are One of the Chief Means to This End; How They Are Made and How They Should Be Cared For

When you lie down to sleep at night probably you are mighty glad that your head rests on a downy pillow instead of a log or a rock. Most people are fond of soft cushions. Furniture is upholstered, chairs are provided with pads which relieve the tedium of sitting on hard wood, and we wear rubber heels to let ourselves down easy on the sidewalk. Because we are continually striving to take the jar out of life it is perfectly natural that the practice should have been carried to the automobile.

There were cushion treads under vehicles before the automobile was in existence. It began with the old velocipede, which was improved by having a solid rubber tire. The early bicycles also had solid rubber tires. With the improvement of the bicycle and its popularization came the pneumatic tire, at first a single tube and then a casing with an inner tube. The latter never was very popular, however, with the bicycle owner.

When the automobile came, the first tires were of the single tube variety and the driver carried a quick repair outfit to use in case of a puncture. This consisted of a bottle of cement, an assortment of plugs, and a pair of pliars to insert the plug. This kind of tire was all right so long as cars were of light weight. With heavier cars, run at much higher speed, owners soon found that something better must be devised for a road cushion.

Several Sorts of Cushions

Of course, there are several other cushions used to make the modern automobile easier riding. There are very carefully devised springs. To reinforce the springs there are shock absorbers of various kinds, and lastly, there are luxuriously upholstered cushions to sit upon. They all are needed.

Gradually the "double tube" tire of the present day was adopted, consisting of an outer casing built to stand the hard wear, and an inner tube of elastic rubber to provide inflation. Constant improvements have been made in the matter of construction and no one has devised a better system thus far.

The casing, or shoe, consists of alternate layers of fabric and rubber, with a rubber composition thread. These layers vary according to the size of the tire and the weight to be sustained. The construction of the casing is fairly simple. Upon a tubing ring, called a mandrel, of the proper diameter, the workman starts with layers of tough fabric, thoroughly impregnated with rubber. There are several layers which are cemented together with rubber in solution. They are stretched and shaped, just as they are seen on the inside of the casing.

Upon this fabric is placed a thin layer of soft rubber to act as a cushion. While this is being put on, the bead of the tire is also formed of fabric and rubber.

Over the cushion rubber, but not extending the full cross section of the casing, is placed a stretch of fabric known as the breaker strip, and upon this, in turn, is molded the tread. This is made of as tough a combination as can be devised. Usually it is largely rubber and talc, with coloring matter, and the outer surface may be smooth or molded into a variety of designs intended to minimize skidding.

The tire thus built up, with mandrel and outer mold, is placed within a huge drum where a temperature of approximately 300 degrees Fahrenheit is maintained by steam pressure, and they remain in this heat chamber for about an hour to cook. The steam has no part in the cooking or curing process other than to maintain a uniform heat. Too little heat results in imperfect curing and too much heat in a burning or disintegration. In either case the tire wears out rapidly.

The Tire's Job

The objects sought in manufacturing the casing are, first, strength to support the weight of the car, sufficient rubber for cushioning, and a quality of rubber which will withstand the constant grind of the pavements. The strength is needed most in the side walls of the casing, because the flattened tire produces a wrinkling or bending of these side walls.

To prevent this break-down of the side walls, which means ruining the tire, manufacturers adopt a standard pressure which they require drivers to maintain if they are to have the benefit of tire mileage guaranty. This pressure is usually so high that it makes the tire as hard and unyielding as solid rubber. A great many owners who prefer a little more comfort, even at the expense of tire mileage, will run their tires at ten to twelve pounds less pressure, knowing full well that the tire will not last as long.

The inner tube is made in a much similar manner, over an iron mandrel, which may be a straight piece or a curved pipe. On these mandrels nearly pure rubber is placed in thin strips, building it up to the proper thickness. This is then wound with strips of cloth and cooked or cured. Then the two ends are vulcanized together and the valve stem is inserted.

Tubes must be of the right size for the casing. If too small they will stretch too much, and if too large, they wrinkle and wear or break. To prevent their chafing against the casing, talc or French chalk is used as a sort of lubricant. They are ordinarily long-lived if properly cared for. When punctured they are easily repaired by one of the quick vulcanizing outfits, and if there is a bad blow-out a new section may be readily vulcanized in. They should be kept in the casings as far as possible and if carried in the machine should be carefully folded and wrapped and kept away from tools and grease.

Casings coming in contact with roadways of varying character are subject to much wear, and yet they are, if properly cared for, wonderfully efficient. The wheels must run true or they grind on the pavement somewhere. The tread may become cut from a variety of causes. Even small cuts should be closed, after proper cleaning, with one of the cements to be procured in any supply house, and large cuts should be attended to by a vulcanizer. If neglected water and sand will work into the fabric and in a short time produce a blister, and this again in an incredibly short time will cause a blow-out.

Inspection Needed

Tires should be inspected every little while for cuts and given proper attention. The careful driver will save his tires by going around corners and curves slowly to prevent the wear from even a slight skidding and keep off car tracks, which look smooth, but have a way of slashing up a tire, and will drive slowly on a wet day on a road on which fresh rock has been newly placed. The workman in rubber wets his knife to make it cut readily. Water on the sharp edges of crushed rock gives a knife sharpness.

In cord tires, in place of multiple layers of fabric in the carcass upon an inner fabric are laid cords in two layers at right angles, the whole being impregnated with rubber. The rubber cushion breaker strip and tread follow as in the fabric tire.

Careful inspection, proper inflation and care in driving will make for the life of the tire far beyond the manufacturer's guaranty, besides eliminating the nuisance of having to change a tire when on tour.

Your Tires and How To Look After Them

Something about tires and their manufacture is told here by H. Clifford Brokaw, technical director of the West Side Y. M. C. A. Automobile School, in his series of articles on motor car operation and upkeep. Inspection and care of casings are important to successful running of an automobile.

Automobile Salon Opens To-night at The Commodore

Sunday Opening of Motor Car Show of Foreign and American Autos Novelty in Exhibition of This Sort

A novelty in the operation of automobile shows is the Sunday opening (to-night) of the automobile salon in the Hotel Commodore. This display, which used to consist exclusively of foreign cars, has associated with it a great many of the higher priced American makes, some of them shown because of the body work thereon by coach builders.

Twenty marques are displayed. The makes of chassis on exhibition are Brewster, Collins, Cunningham, Daniels, Delage, Dusenberg, Lancia, Lanchester, Locomobile, Meteor, Minerva, Napier, Packard, Panhard, Pierce-Arrow, Porter, Renault, Rolls-Royce, Sunbeam and Winton. Special custom coachwork exhibits are by Aircraft, Brooks-Ostruk, Fleetwood, Healey, Holbrook, C. P. Kimball, Locke, Leon Rubay and United. In addition, two famous aeronautical engines will be shown, the Rolls-Royce Eagle, with two transatlantic flights to its credit, and the Wright-Hispano.

Cars new to this country are the English Lanchester, and others that are making a reappearance after long absence are the Napier, the Minerva, of Belgium, and the Panhard, of France.

Particular interest attaches to the display made by Rolls-Royce, because of the establishment in this country of a manufacturing plant for this well known British make. Four cars and a chassis are exhibited in addition to the aeronautical engine. Barker, of London, is the maker of a cabriolet of the Salamanca design, painted light blue and upholstered in Bedford cord. Another cabriolet is the American interpretation of the Salamanca by Wood, of New York. It is painted blue. A four-passenger open touring model, with cushions and seat backs in blue whipcord and the rest of the body finished in leather, has a top in English Burbank. The fourth exhibit is a limousine brougham in maroon, with black panels trimmed in Bedford cord.

Meteor, among the American cars, and Delage and Sunbeam, new models of the foreign makes, will attract particular attention. The exhibition runs for a week.

The Brooks-Ostruk exhibit at the salon includes three cars, a Rolls-Royce Salamanaca cabriolet, a four-passenger sporting trap on a Delage and a town limousine on a Sunbeam. The novelty is the sporting trap, as the other two body equipments are on standard Brooks-Ostruk lines.

One of the novel types of equipment built by the Brooks-Ostruk Company is called the "sedan élite," which is the medium size inclosed body with brougham seats in both compartments. The division front window may be lowered, completely covering the interior of the body to resemble a sedan of the more or less standard type.

The exhibit of Resta Motors consists of four Sunbeam cars as follows: A four-passenger coupé, a Salamanca cabriolet, a four-passenger sporting trap and a very smart brougham. The lines of these four bodies are distinctive and original to a degree, the upholstery, mountings and colors being selected with the greatest care so as to harmonize perfectly.

One of the interesting exhibits in the automobile salon will be the new Minerva cars, six cylinders and with an entirely new system of spring suspension. The body equipment exhibited at the automobile salon will be a six-passenger sedan constructed by Brooks-Ostruk.

Make Sure Insurance Policy Covers All Driving

Otherwise, if Accident Results, There May Be Found To Be No Coverage

Occasionally Mr. Automobile Owner may forget just what coverage he has under his automobile insurance policy. He may permit others in his family and his friends to drive his car, although the policy strictly prohibits anybody else from driving. Such a warrant is contained in the contract. It is stipulated that on account of the reduced rate at which the policy is written the owner declares that nobody but himself will drive the automobile during the policy year. The consequences for such misrepresentation of facts may result in the company refusing, in the event of an injury to a person or persons, to protect the interest of the assured, as specified in the policy. If a collision results the company may disclaim liability for the repair of the damaged car.

These facts should be considered very carefully at the time the car is being driven, for a great deal of trouble will be had if the policy does not get the same consideration as that of any other binding agreement or contract. It is legally as effective upon the assured as it is upon the company, and if the agreements contained therein are not carried out by the automobile owner the company will in all probability reserve its rights under the policy.

If it is felt by the assured that he prefers to be properly protected and desires to take advantage of having his car driven not alone by himself but by others, and the car is intended to use for business purposes, such declaration should be included in the policy contract, so that, in the event of a claim, no possible question of liability may arise. The additional premium for this increased protection is not very great, and to one who prefers not to have any lawsuits it is most advisable to carry the right kind of protection. L. H. G.

Roadside History Kept Very Much Up to Date

The outcome of the Presidential election has been recorded on those roadside historical bulletin boards of a tire company with which every motorist is familiar.

At Marion, Ohio, the board carries this information: "Marion is the Ohio home of Warren Gamaliel Harding, who was elected twenty-ninth President of the United States on his fifty-fifth birthday (November 2, 1920), by the largest popular plurality ever recorded."

And at Northampton, Mass., the board reads as follows: "Northampton is the Massachusetts home of Calvin Coolidge, who on November 2, 1920, was elected Vice-President of the United States by the largest plurality ever recorded for that office."

There probably is nothing on the Dayton, Ohio, or Hyde Park, N. Y., boards about the fate of the Democratic candidates.

Florida Touring Data for Those Bound to the South

Conditions of Roads Leading Through Washington, Richmond and Georgia Points Down to Miami

The Bureau of Tours of the Automobile Club of America has checked up all roads between New York and Florida and gives the following as authentic to date:

New York to Philadelphia

Although there is still no route which can be considered good throughout, much improvement has been made since earlier in the season. At present, under all conditions, the best route to follow is the Lincoln Highway to New Brunswick; then over the Cranbury Turnpike to Trenton, where the Lincoln Highway is again followed by way of Langhorne and Bustleton into Philadelphia.

A choice of two routes is available between Philadelphia and Baltimore, one over the Old Chester and Darby Pike through Wilmington, the other leaving Philadelphia by Sixty-third Street and Baltimore Avenue and running over the Baltimore Pike through Media, Kennett Square, Rising Sun and Conowingo to Belair and Baltimore. On the former route new brick paving replaces the stretch of roadway which has been so poor between Chester and Wilmington. The section crossing the northern part of the state of Delaware has also been sufficiently improved to make this road available in all kinds of weather.

The second itinerary is hard surfaced road in excellent condition practically throughout, the construction work at Rising Sun having been finished and the detour eliminated. The balance of the run between Baltimore and Washington is hard surface and in good condition.

Washington to Richmond

This averages good, although there are a few short sections which might prove a bit troublesome after much rain. Between Acootin and Dumfries is a stretch of graded gravel, most of which is in very good condition, though there are a few sections which have been recently filled in and, like any other new construction of this character, becomes soft and rutted in extreme weather conditions. A stretch of new concrete road is being built over the Chopawamsic Swamp, where formerly so much trouble has been encountered; most of this has been finished, and will doubtless be completed before the Southern touring season is well advanced.

From Richmond to Petersburg is good, hard surface, then sand clay, with some gravel sections. Although many rough spots will be encountered, there is no point where actual difficulty need be anticipated in dry weather. An optional route is available by way of La Crosse, Canon's Ferry, Norlina, Henderson and Franklin to Raleigh. This is fifteen miles shorter than the route by way of Clarksville, but is objected to by many motorists on account of the crude flat-boat which is used on the Canon's Ferry.

Durham to Pinehurst

Improved hard surface to Raleigh, then fair to good sand clay is found, though many rough places will, of course, also be met with. The sand clay continues fair for the most part to Pinehurst.

Pinehurst to Macon

A short distance beyond Pinehurst conditions begin to grow worse and a great deal of badly rutted surface is encountered, with many sand stretches. Between Middendorf and McBee an especially poor sand detour is encountered, to get around a section where the road has been torn out by heavy rains. Through Augusta and practically all the way on to Macon, however, sand clay and gravel are found, though there will still be encountered now and then a short piece of all sand road.

Augusta to Jacksonville via Savannah

This route is at present impossible on account of the cessation of operation of the ferry crossing the Altamaha River at Darien. Since the failure of the Georgia Coast & Piedmont Railroad there has been no service for automobiles across the river.

There is also a bridge under construction crossing the Alabama River just above Doctortown. The contractor states this work will be finished by December 15, but we would, of course, not advise tourists to attempt this itinerary without first consulting the bureau of tours, as we will be notified when both bridges are completed.

Macon to Jacksonville

Fairly good sand and clay road is available to Waycross, but from this point on into Jacksonville the road has been under construction for some time. This probably provides the most feasible route to Jacksonville, but the motorist should be prepared for a tiresome drive through heavy sand and dirt for at least fifty miles of the distance. The dirt stretches of course would be extremely bad after heavy rains.

Jacksonville to Miami

The first ten miles out of Jacksonville leads over a good shell road, then brick pavement, which is in very good condition nearly to Ormond. From this point when the tide is low there is a wonderfully fine drive possible along the beach as far as Sea Breeze. The main trunk route between Ormond and Daytona is good shell. Except for a stretch of perhaps three miles north of New Smyrna, which is badly broken and full of holes, and a six-mile stretch north of Mins, which is also poor, the route between Daytona and Rockledge is all good shell. The balance of the run down to Miami is practically all good.

Electricity Makes Steam in This Car

From Johnstowh, Pa., comes word of the invention of a steam automobile so arranged that the operator need only to turn an electric switch and in a few minutes sufficient steam is generated to run the car. After that the steam is kept up automatically throughout the day. It is stated the radiator need be filled only once a week with water. The engine is of a four-cylinder compound type and will generate approximately 70 horsepower.

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This car, it is said, can be operated at a cost of about a dollar for 500 miles, this being spent for oil which is supplied to all bearings on the car by a syphon system.

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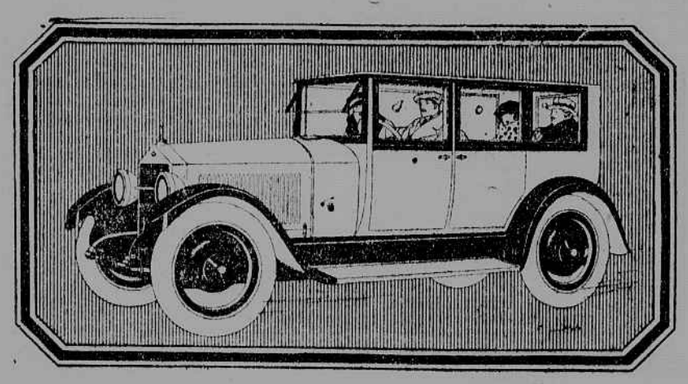

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by
A. G. SOUTHWORTH,
Manager New York Branch

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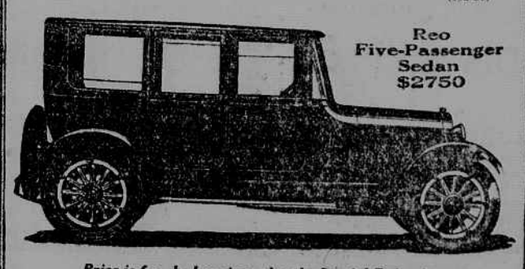

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